IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method implemented by a computer programmed as an image processing device that analyzes ~~for a computerized analysis of~~ a mammogram in digital form of a breast of a patient, comprising:

extracting from a selected region of interest in the mammogram, plural surface ~~areas~~ area values or ~~volumes~~ plural volume values calculated at corresponding plural scales associated with a texture of a parenchyma of the breast;

applying, by the image processing device, said plural surface area values ~~areas~~ or said plural ~~volumes~~ volume values directly as inputs to at least one of a linear discriminant classifier and an artificial neural network classifier; and

generating a risk marker indicative of a breast disease risk for said patient based on an output of the at least one of a linear discriminant classifier and an artificial neural network classifier.

2-3. (Canceled)

4. (Currently Amended) The method according to Claim 1, wherein the extracting step comprises:

extracting the plural surface ~~areas~~ area values from an area of the region of interest of the mammogram based on a box-counting method.

5. (Currently Amended) The method according to Claim 1, wherein the extracting step comprises:

extracting the plural ~~volumes~~ volume values from a volume of the region of interest of the mammogram based on a general Minkowski model.

6. (Currently Amended) The method according to Claim 1, wherein the applying step comprises:

applying the plural surface area values or the plural volume values ~~features~~ to a linear discriminant analysis classifier.

7. (Currently Amended) The method according to Claim 1, wherein the applying step comprises:

applying the plural surface area values or the plural volume values ~~features~~ to an artificial neural network classifier.

8-9. (Canceled)

10. (Previously Presented) The method according to Claim 1, wherein the extracting step comprises:

extracting from the mammogram a multi-fractal characteristic associated with the texture of the parenchyma of the breast.

11. (Currently Amended) A system for computerized analysis of a mammogram in digital form of a breast of a patient, comprising:

a memory storing the mammogram in digital form;

a feature extraction mechanism that extracts, from a selected region of interest in the mammogram, plural surface area values ~~areas~~ or plural volume values ~~volumes~~ calculated at corresponding plural scales associated with a texture of a parenchyma of the breast;

a classifier mechanism including at least one of a linear discriminant classifier and an artificial neural network to which the plural surface area values ~~areas~~ or said plural volume values ~~volumes~~ are directly applied as inputs; and

a risk marker generator that generates a risk marker indicative of a breast disease risk for said patient based on an output of the classifier mechanism.

12-13. (Canceled)

14. (Currently Amended) The system according to Claim 11, wherein the feature extraction mechanism extracts the plural surface area values ~~areas~~ from an area of the region of interest of the mammogram based on a box-counting method.

15. (Currently Amended) The system according to Claim 11, wherein the feature extraction mechanism extracts the plural volume values ~~volumes~~ from a volume of the region of interest of the mammogram based on a general Minkowski model.

16. (Previously Presented) The system according to Claim 11, wherein the classifier mechanism comprises a linear discriminant analysis classifier.

17. (Previously Presented). The system according to Claim 11, wherein the classifier mechanism comprises an artificial neural network classifier.

18-19. (Canceled)

20. (Previously Presented) The system according to Claim 11, wherein the feature extraction mechanism extracts from the mammogram a multi-fractal characteristic associated with the texture of the parenchyma of the breast.

21. (Currently Amended) A computer readable medium storing instructions for execution on a computer system, which when executed by the computer system, causes the computer system to perform a method for a computerized analysis of a mammogram in digital form of a breast of a patient, comprising the steps of:

extracting from a selected region of interest in the mammogram, plural surface area values ~~areas~~ or plural volume values ~~volumes~~ calculated at corresponding plural scales associated with a texture of a parenchyma of the breast;

applying said plural surface area value ~~areas~~ or said plural volume values ~~volume~~s directly as inputs to at least one of a linear discriminant classifier and an artificial neural network classifier; and

generating a risk marker indicative of a breast disease risk for said patient based on an output of the at least one of a linear discriminant classifier and an artificial neural network classifier.

22-23. (Canceled)

24. (Currently Amended) The computer readable medium according to Claim 21, wherein the extracting step comprises:

extracting the plural surface ~~areas~~ area values from an area of the region of interest of the mammogram based on a box-counting method.

25. (Currently Amended) The computer readable medium according to Claim 21, wherein the extracting step comprises:

extracting the plural volume values ~~volumes~~ from a volume of the region of interest of the mammogram based on a general Minkowski model.

26. (Currently Amended) The computer readable medium according to Claim 21, wherein the applying step comprises:

applying the plural surface area values or the plural volume values ~~features~~ to a linear discriminant analysis classifier.

27. (Currently Amended) The computer readable medium according to Claim 21, wherein the applying step comprises:

applying the plural surface area values or the plural volume values ~~features~~ to an artificial neural network classifier.

28-29. (Canceled)

30. (Previously Presented) The computer readable medium according to Claim 21, wherein the extracting step comprises:

extracting from the mammogram a multi-fractal characteristic associated with the texture of the parenchyma of the breast.